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Colortrac
Our Business is Your Image

SmartLF Gx+ Scanner
Troubleshooting Guide

SmartLF Gx+ Scanners

Troubleshooting Guide

Issue 5

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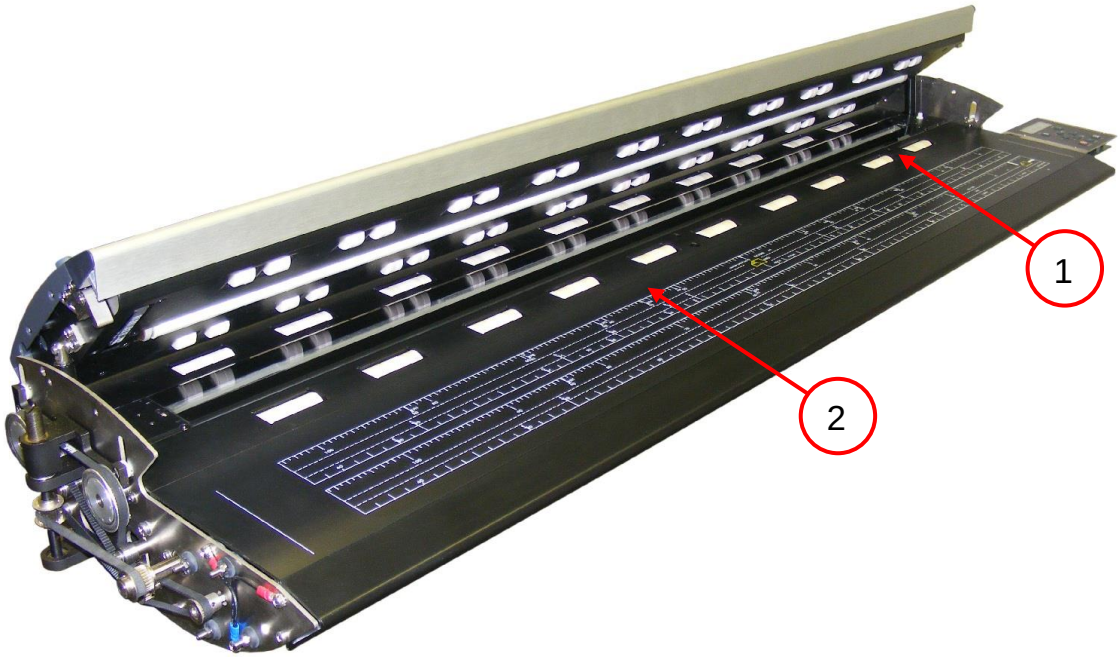
References within this Instruction Manual:	
The Gx+ Service Manual can be found on: www.colortracsupport.com User: colortrac Password: *available on request*	The firmware, driver and software updates can be found on: http://www.colortrac.com/support/software-downloads/

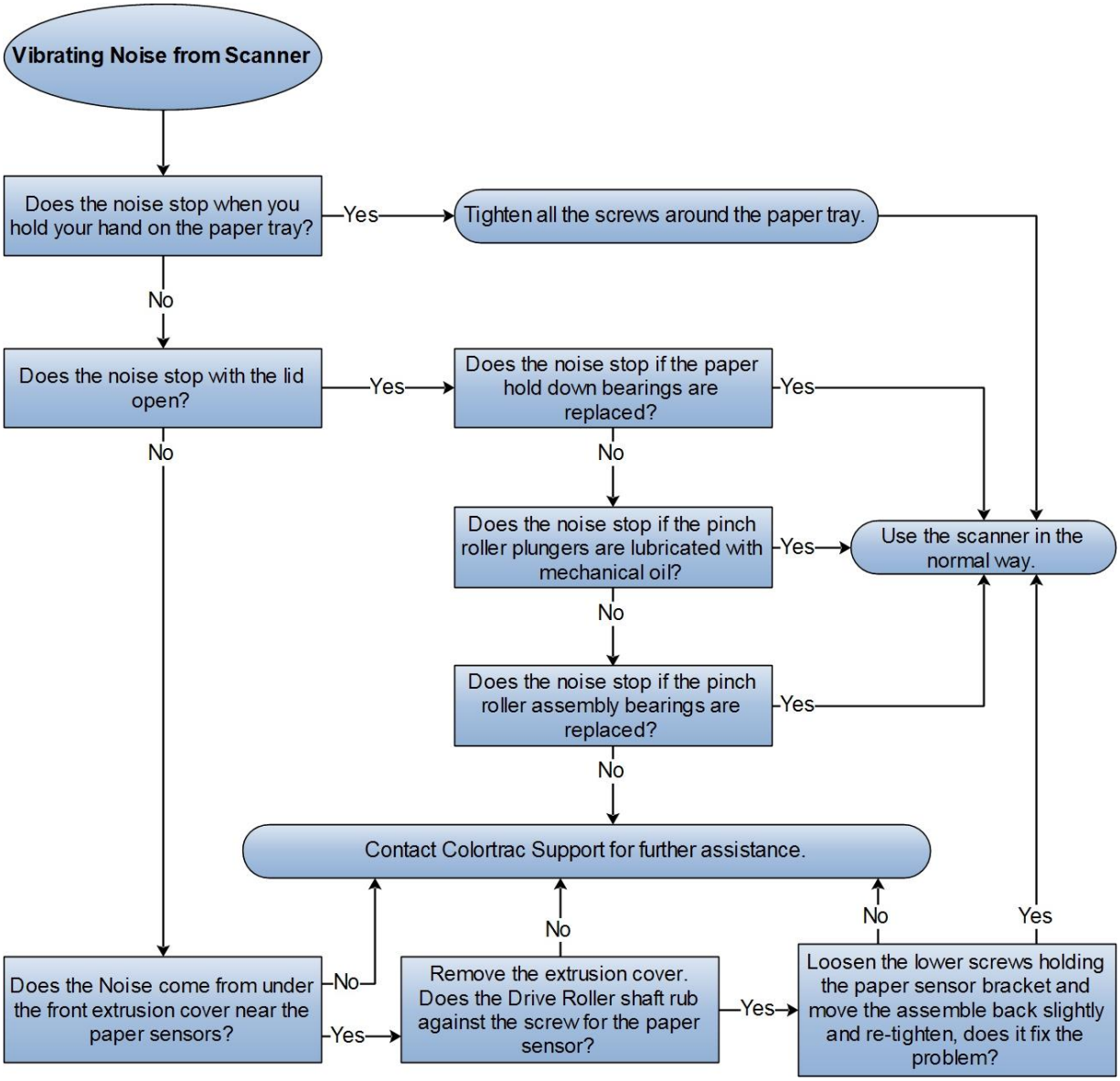
1. Noise From Scanner

Fault	Possible Cause
Vibrating noise from scanner. Clunking noise from scanner.	1. Main drive roller rubbing on paper sensor bracket screw. 2. Loose screws holding paper tray. 3. Loose Timing Belt.

1.1 SUGGESTED PROBLEM AREAS

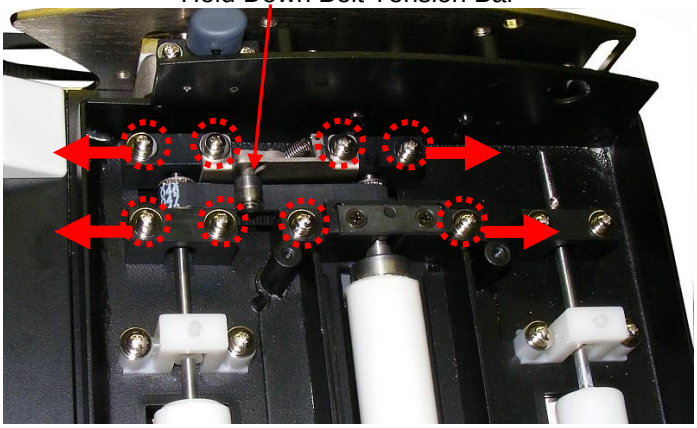


1.2 FLOW GRAPH


Vibrating Noise from Scanner
Does the noise stop when you hold your hand on the paper tray?
Yes
Tighten all the screws around the paper tray.
No
Does the noise stop with the lid open?
Yes
Does the noise stop if the paper hold down bearings are replaced?
Yes
No
No
Does the noise stop if the pinch roller plungers are lubricated with mechanical oil?
Yes
Use the scanner in the normal way.
No
Does the noise stop if the pinch roller assembly bearings are replaced?
Yes
No
Contact Colortrac Support for further assistance.
No
No
Yes
Does the Noise come from under the front extrusion cover near the paper sensors?
No
Yes
Remove the extrusion cover. Does the Drive Roller shaft rub against the screw for the paper sensor?
Yes
Loosen the lower screws holding the paper sensor bracket and move the assemble back slightly and re-tighten, does it fix the problem?

A *clunking noise* coming from the Lid Assembly when the scanner is passing media through can be caused by the "Lid Timing Belt Tension Unit" (if fitted). If the Timing Belt in the Lid Assembly is too loose the Tension bar raises up and 'clucks' down as the belt tightens and loosens. This can be resolved by loosening the screws holding the 4 x brackets holding both the Hold Down Roller and the Pinch Roller in place, moving the brackets as far apart as possible, and retightening the screws. It adds enough tension in the belts to over come this issue. See the service manual for more information.

Hold Down Belt Tension Bar



2. Image Doesn't Look Like It Should

Fault	Possible Cause
Image doesn't look like it should	1. Normalisation. 2. Autostitch 3. Focus difference. 4. Camera cables not put back through ferrites. 5. Camera cable loose. 6. Cameras from different batches. 7. Diffusion Tape not fitted 8. Dirty mirrors. 9. Dirty glass. 10. Strand or fibre across scan gap

2.1 IMAGE EXAMPLES

Media skews in scanner

1. If the media skews as it passes through the scanner, and causes a distorted image, it is normally down to the rollers being dirty and becoming slippy. Clean all the main drive rollers with an alcohol based cleaning wipe to clean off all dirt.

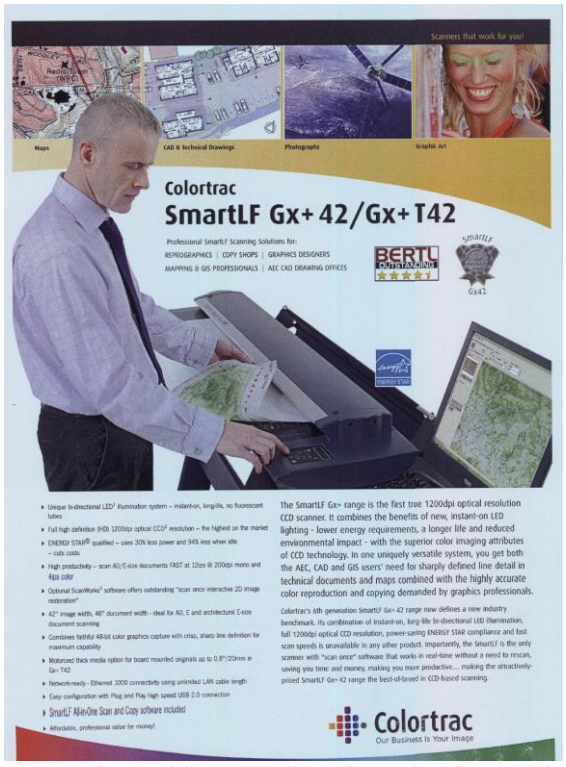
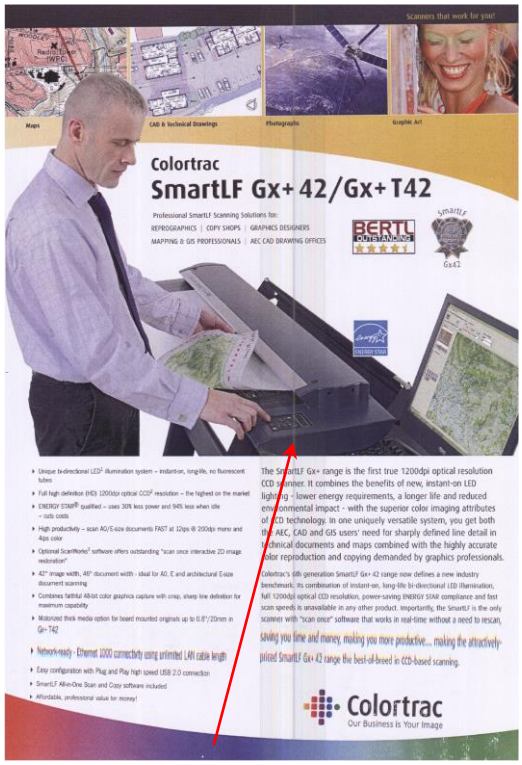


Image has a blue or yellow tint to background

2. If an image has a blue or yellow tint to the background it could be down to the diffusion tape being badly fitted, or not fitted at all. If it accures after configuring a main board, it is down to an earlier version of plotworks being used. Install the Plotworks currently on the support site, and follow instructions in overwriting the executionable, and re-confiqure the main board as described in the service manual.

Line caused by normalising in dirt

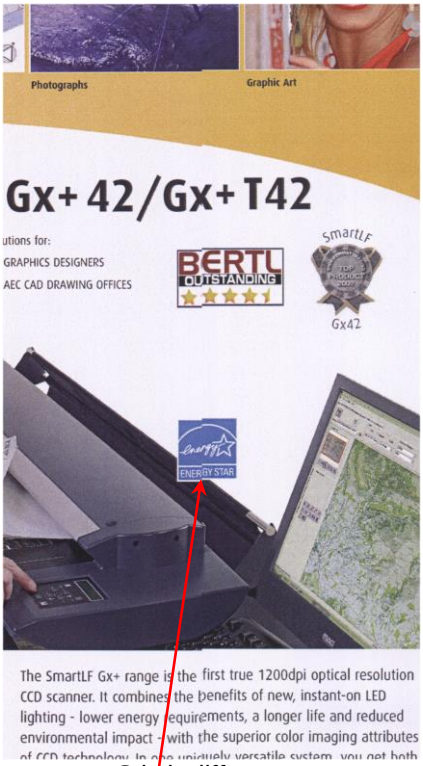
3. A light, see-through line is normally caused by dirt being on the glass at the time of normalisation, and then being cleaned afterwards. Clean glass and normalise again.



Line caused by dirt on glass

4. A line that is solid, but fades in and out at the edges, is normally dirt in the scan path. Clean the glass and normalise. If it is still there, then it could be under the glass or even on the mirror. Follow instructions on the support site on cleaning the mirrors.

5. Lines down an image can also be down to fine strands of fibre across the scan gap. Use a torch to see clearly down the scan gap. First, open the lid fully and remove the glass, as described in the service manual, and look down the gap. Any loose strands of fibre seen can be removed with a pair of tweezers. The mirrors can also be checked out while the glass is removed, and any loose fibres on the mirrors can be 'blown' away but simply blowing across and down the gap. If a compressed air can is used, then test before blowing down the gap, as any moisture that also comes out will go on the mirrors and affect the images. Mirrors can be clean by using a soft cotton bud, but great care has to be taken not to scratch the mirror.

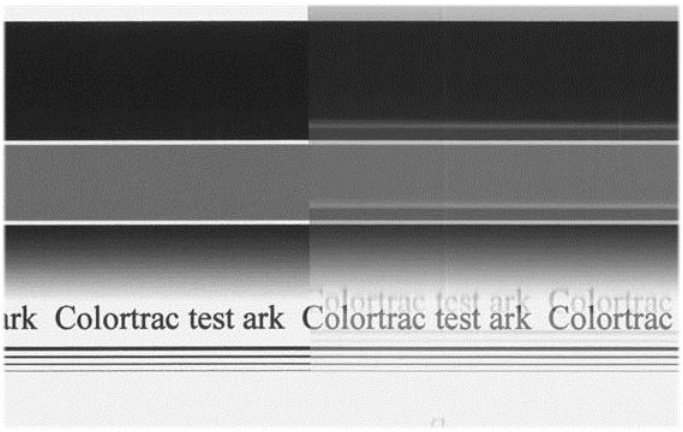

Photographs
Graphic Art
Gx+ 42/Gx+ T42
GRAPHICS DESIGNERS
AEC CAD DRAWING OFFICES
BERTL OUTSTANDING
Gx42
ENERGY STAR
The SmartLF Gx+ range is the first true 1200dpi optical resolution CCD scanner. It combines the benefits of new, instant-on LED lighting - lower energy requirements, a longer life and reduced environmental impact - with the superior color imaging attributes

Stitch difference

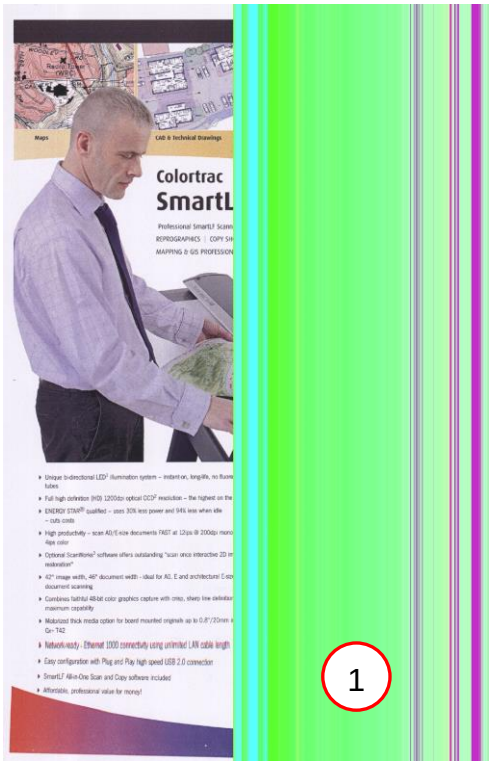
1. If a step is seen in an image at one or more camera point, the scanner needs to be automatically stitched. Insert the white autostitch target with the lined side down and the horizontal lines in first, and run the autostitch process in the utilities program.

Colour difference

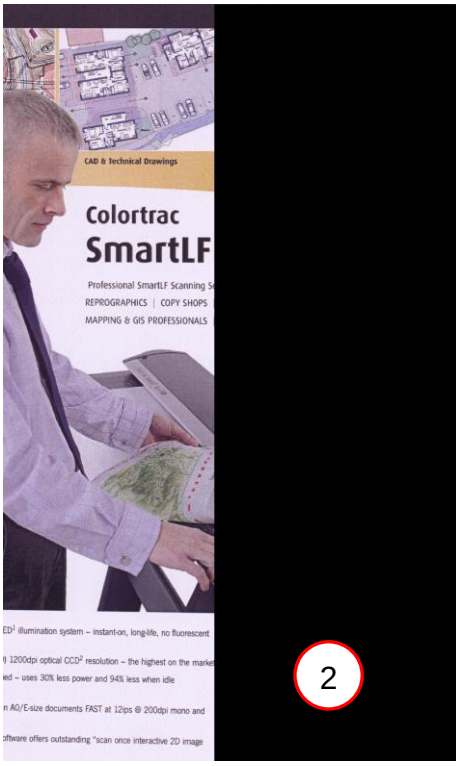
2. If a colour difference can be seen between 2 cameras, the scanner may need normalising. Insert the white normalisation target, matt side down, and run the normalisation process from the utilities program. If a colour difference can still be seen, it may be down to the focus being slightly out, or the cables not going through the ferrittes; a camera cable being loose or a tolerance between two cameras from difference batches. Follow instructions in the service manual when working on the cameras.



3. If a camera is giving a double image it is more likely to be the camera cable. If changing the cable does not solve the problem, change the Main Board. It is unlikely to be the camera itself causing the problem



Bad Image over one camera



Black image over one camera

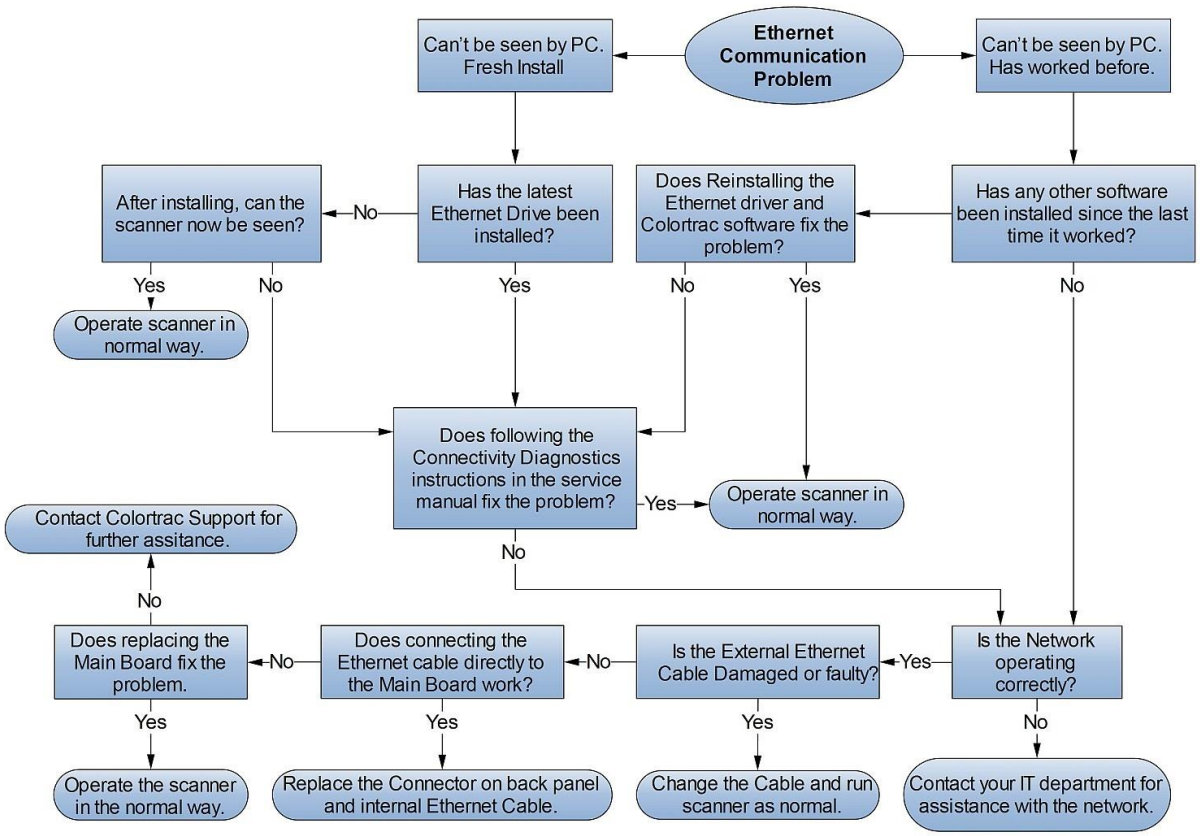
4. If an image is incorrect over one camera, it can be down to either the camera board, cable or main board. Image 1 shows an image typical of a loose or broken cable, image 2 is typical of the camera board being the problem, but this is not always the case. To find out which, swap over the camera cable from the problem camera with one next to it, at the main board end. If the problem moves with the cable swap it is the camera or cable, if it stays in the same place, it is the main board. If the cable looks to be damaged or any of the core are broken, replace the cable. If it is the camera, first check to make sure the camera has not moved so it is looking off centre of the scan line. If the camera is still tight and does not appear to have moved, replace the camera as described in the service manual.

5. If the media scans, but no image appears, this can be down to the main board. Change the main board and configure to the appropriate model. The main board is more likely to be the problem, but if the image still appears blank after a scan, then check the cameras are all working. One camera can bring the others down to give a blank image, try unplugging each cable individually to see if the other camera start to see an image.

3. Cannot Connect Via Ethernet

Fault	Possible Cause
Cannot connect via Ethernet.	1. Software / Scanner Settings 2. Ethernet Driver. 3. Mac Address. 4. Network Speed. 5. Internal Ethernet Cable 6. Main Board

3.1 FLOW GRAPH

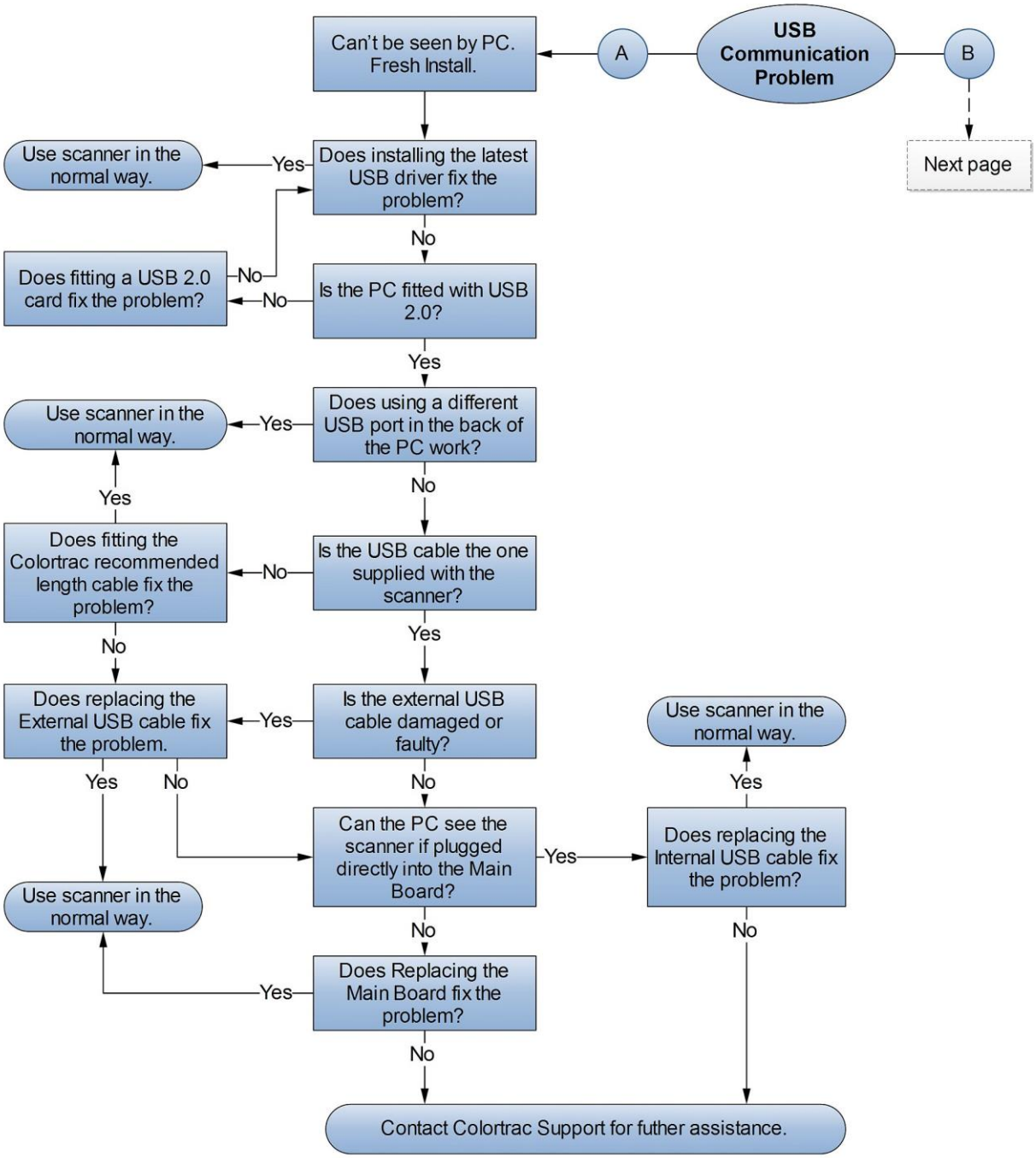

Ethernet Communication Problem
Can't be seen by PC. Fresh Install
Can't be seen by PC. Has worked before.
After installing, can the scanner now be seen?
No
Has the latest Ethernet Drive been installed?
Does Reinstalling the Ethernet driver and Colortrac software fix the problem?
Has any other software been installed since the last time it worked?
Yes
No
Yes
No
Yes
No
Operate scanner in normal way.
Does following the Connectivity Diagnostics instructions in the service manual fix the problem?
Yes
Operate scanner in normal way.
Contact Colortrac Support for further assitance.
No
No
Does replacing the Main Board fix the problem.
No
Does connecting the Ethernet cable directly to the Main Board work?
No
Is the External Ethernet Cable Damaged or faulty?
Yes
Is the Network operating correctly?
Yes
Yes
Yes
No
Operate the scanner in the normal way.
Replace the Connector on back panel and internal Ethernet Cable.
Change the Cable and run scanner as normal.
Contact your IT department for assistance with the network.

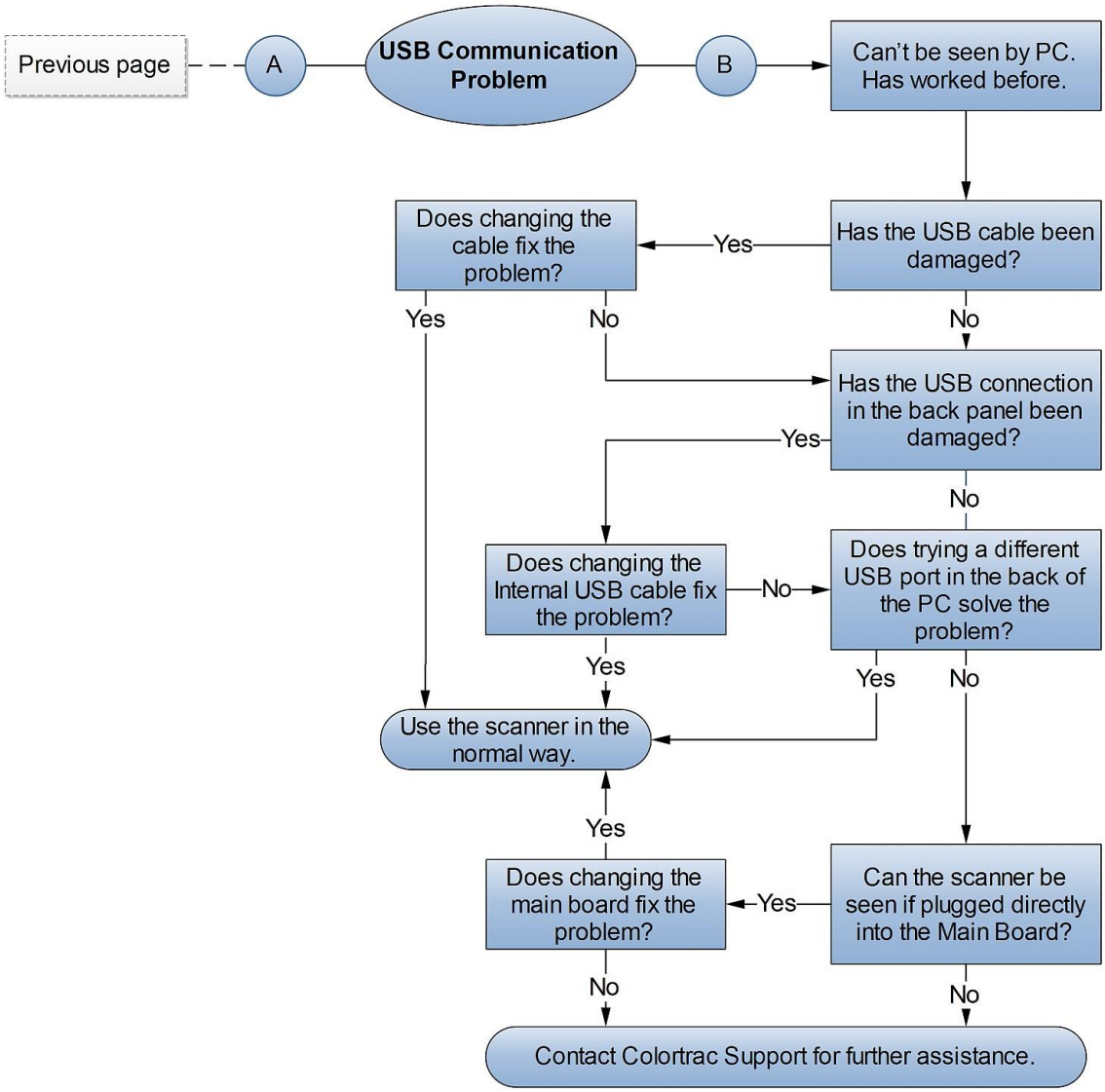
NOTE: If the scanner powers up with 'Error Ethernet 100' message on the display, this is because the network is not a 1Gb system. The scanner is *not* likely to be the fault. If a 1Gb network is not available, then connect the scanner to a 1Gb hub or switch and connect that to the network. The scanner ONLY works with a 1Gb network.

4. Cannot Connect Via USB

Fault	Possible Cause
Cannot connect via USB	1. USB Cable 2. Internal USB Cable 3. PC USB Port 4. Main Board

4.1 FLOW GRAPH

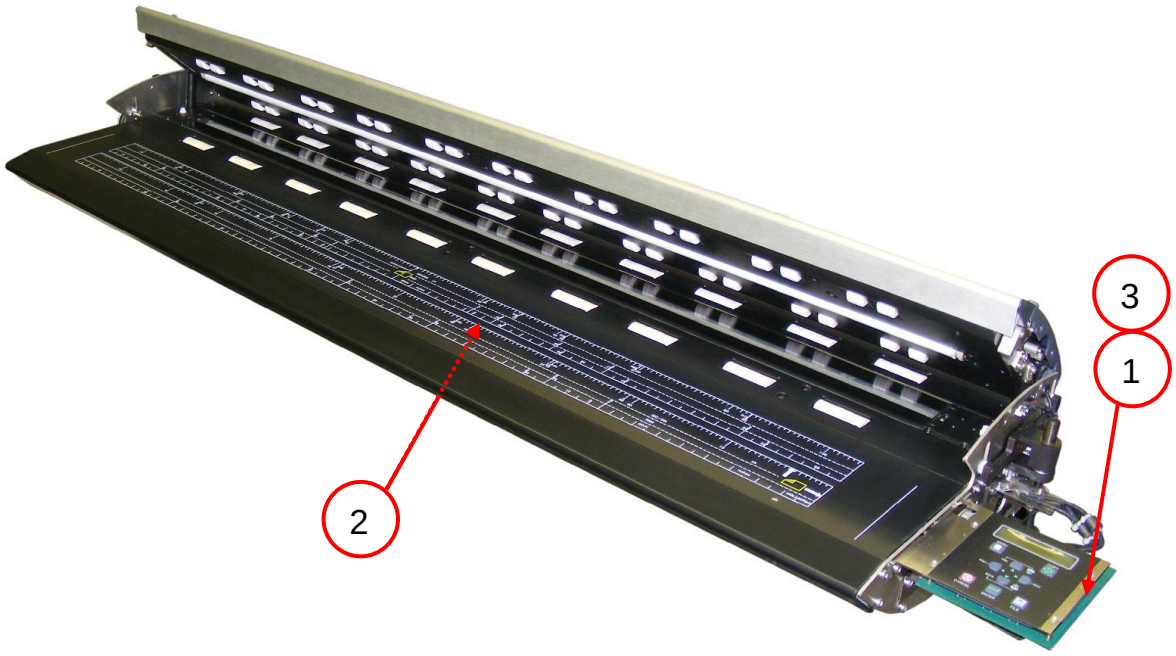

USB Communication Problem
A
B
Next page
Can't be seen by PC. Fresh Install.
Does installing the latest USB driver fix the problem?
Yes
Use scanner in the normal way.
No
Is the PC fitted with USB 2.0?
No
Does fitting a USB 2.0 card fix the problem?
No
Yes
Does using a different USB port in the back of the PC work?
Yes
Use scanner in the normal way.
No
Is the USB cable the one supplied with the scanner?
No
Does fitting the Colortrac recommended length cable fix the problem?
Yes
No
Is the external USB cable damaged or faulty?
Yes
Does replacing the External USB cable fix the problem.
Yes
No
Use scanner in the normal way.
No
Can the PC see the scanner if plugged directly into the Main Board?
Yes
Does replacing the Internal USB cable fix the problem?
Yes
No
Use scanner in the normal way.
No
Does Replacing the Main Board fix the problem?
Yes
No
Contact Colortrac Support for futher assistance.


Previous page
A
USB Communication Problem
B
Can't be seen by PC. Has worked before.
Has the USB cable been damaged?
Yes
Does changing the cable fix the problem?
Yes
No
No
Has the USB connection in the back panel been damaged?
Yes
No
Does trying a different USB port in the back of the PC solve the problem?
No
Does changing the Internal USB cable fix the problem?
Yes
Yes
No
Use the scanner in the normal way.
Yes
Can the scanner be seen if plugged directly into the Main Board?
Yes
Does changing the main board fix the problem?
No
No
Contact Colortrac Support for further assistance.

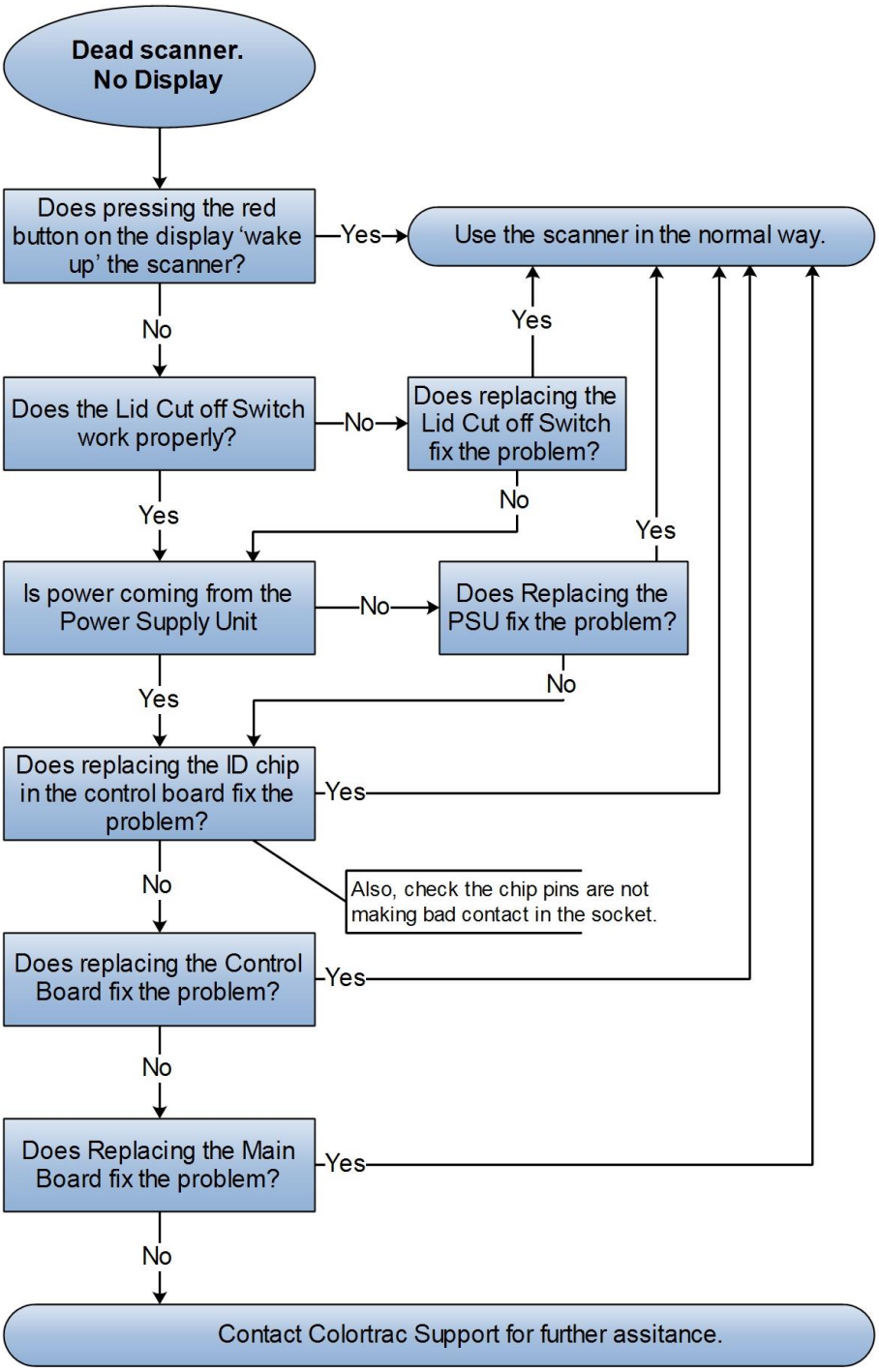
5. Dead Scanner

Fault	Possible Cause
Dead Scanner	1. Control Board 2. Main Board 3. Control Board ID Chip 4. PSU

5.1 SUGGESTED PROBLEM AREAS



5.2 FLOW GRAPH


Dead scanner.
No Display
Does pressing the red button on the display 'wake up' the scanner?
Yes
Use the scanner in the normal way.
No
Yes
Does the Lid Cut off Switch work properly?
No
Does replacing the Lid Cut off Switch fix the problem?
Yes
No
Yes
Is power coming from the Power Supply Unit
No
Does Replacing the PSU fix the problem?
Yes
No
Does replacing the ID chip in the control board fix the problem?
Yes
No
Also, check the chip pins are not making bad contact in the socket.
Does replacing the Control Board fix the problem?
Yes
No
Does Replacing the Main Board fix the problem?
Yes
No
Contact Colortrac Support for further assitance.

7. Miscellaneous Issues

Fault	Possible Cause
Start / Stops During Scanning	PC Speed

The scanner can be caused to stop and wait during scanning when the PC buffer is full of information, and has to empty it enough to continue receiving more information from the scanner. The scanner will stop and start if the PC is not of a good enough specification to keep up with the information being sent. TIFF RGB images creates large files and a lot of information, and the scanner can stop a number of times if the PC cannot cope with the information flow. During the start / stop of the scanner, the image can lose a line of information or corrupt a line of information due to the motor and roller moving very slightly at that point. To prevent this, the scanner software has a scan speed, which can be set to slow the scanner down so the PC can keep up with it. This will lengthen the scanning time taken, but it is down to the PC, not the scanner ability.

Fault	Possible Cause
Paper Guide Assy does not open to it's maximun elevation.	Faulty Gas Pistons

If the Gas Pistons loose gas through the seal developing a leak, the Gas Piston will not push the Paper Guide Assembly to its full height when opened. Replacing the Gas Piston, by following the instructions in the service manual, will solve this problem. During early production of the Gx+, a manufactor error meant that the Gas Pistons were fitted up side down during production. This did not cause problems for most scanners and can be easily correctly by following the field modification instructions that can be found in the service manual.

Fault	Possible Cause
Paper Guide Assy does not raise when using the control buttons	Main Board incorrectly configured

There are 2 different settings for the Gx+ scanners, a 'T' (raising lid) and a 'non-T' (standard lid) model. The main board needs to be confiqured to suit the appropriate model by using the PlotWorks program. Installing the program from the Gx+ page of the www.colortracsupport.co.uk site and run from the PC attached to the scanner. This will allow the correct version to be configured to the main board. This program looses all settings, so take a note of the motor speed from the utilities program before running the PlotWorks program, and re-insert the value afterwards, as well as normalising and autostitching.
Full instructions in the service manual.

Fault	Possible Cause
Paper Guide Assy not level	Raising Lid Secondary Main Belt loose at one end.

If the Paper Guide Assy does not sit level on the scanner, then media will skew and give an incorrect image, this is casued by one of the Raising Lid Secondary Timing belts being loose and slipping. Follow the instructions on aligning the Paper Guide Assembly in the service manual

Fault	Possible Cause
Scan to file; Scanner scans couple of inches then returns to front.	Software old version
Image goes black during the scan.	LED's are turning off too early during a scan, needs firmware v1.38 or higher. If latest firmware already install, the LED's may be at fault, check to see which one doesn't flash when 'scan' is first pressed.

Make sure all software, firmware and drivers are up to the latest version as on the Colortrac site.
http://www.colortrac.com/support/support_downloads.htm

Fault	Possible Cause
Media won't load when trying to inserted.	The ribbon cable from the Main Board to the Control Board may be loose or not making good contact. If the cable is connected properly, it could also be the Control Board, paper sensors or paper sensor cables.

Fault	Possible Cause
Display is stuck in the 'initialise' state.	This is normally caused by stopping the firmware download before it has completed. If switching off the scanner for a count of 20 seconds and switching back on does not fix the problem, then the other way to solve this issue is to change the main board.

Fault	Possible Cause
Scanned Image Wrong Length	Motor Speed*

*The scanner has a 'motor speed' set internally, which is set during production. This controls the speed of the motor during scanning to compensate for tolerances in the Drive Roller and Motor Drive Pulley. This is to make sure the image length is correct in comparison to the original. Sometimes, particularly if the main board has been changed and the motor speed for that scanner has not been set in the scanner, it may not be correct. Using the following equation will help calculate a new motor speed to compensate for inaccuracies:

$$\left(\frac{1}{\frac{\text{Measured Length}}{\text{Actual Length}}}\right) \text{ x current motor speed}$$

Actual length = a document of known size
Measured length = the scanned known sized document measured top to bottom within ScanWorks.